

08
001/1
elements include cleavable signal elements provided in a spatially addressable pattern with cleavable spacers and a signal responsive moiety adapted to reflect or scatter incident light. --

IN THE CLAIMS:

Please cancel Claim 4.

Please add the following new claims:

53.
52
An assay device comprising:

a laser readable disk;

one or more individual assay sectors including analyte binding elements within said disk to be scanned by the incident beam of a laser of a laser disc reader;

a sample inlet port associated with each of said one or more assay sectors to be scanned by the incident beam of, and read by, a laser disk reader;

09
computer software encoded in said disk which is encoded in an area of said disk which is spatially separate from said assay sectors to allow separate scanning of said software and said sectors; and

said sectors and software being provided in said disk for being read by the same laser disk reader.

53
54
The assay device of claim 52 wherein said elements are provided within said sectors within said disk in a predetermined spatially addressable manner.

54
55
The assay device of any one of claims 52 and 53 wherein said software includes information selected from the group: tracking information for tracking of an incident laser, assay interpretive algorithms, standard control values and self-diagnostics.

~~55~~⁵⁵ 56. The assay device of claim ~~55~~⁵⁴ wherein said software is capable of uploading diagnostic information to remote locations.

~~54~~⁵⁴ 57. The assay device of any one of claims ~~53~~⁵² and ~~54~~⁵³ wherein said analyte binding elements include cleavable signal elements having a cleavable spacer and a signal responsive moiety.

~~57~~⁵⁷ 58. The assay device of claim ~~57~~⁵⁶ wherein said signal responsive moiety is adapted to reflect or scatter incident light.

~~58~~⁵⁸ 59. The assay device according to claim ~~57~~⁵⁶, wherein said signal responsive moiety is a metal microsphere.

~~59~~⁵⁹ 60. The assay device according to claim ~~59~~⁵⁸, wherein said metal microsphere is essentially a metal selected from the group of gold, silver, nickel, platinum, chromium and copper.

~~60~~⁶⁰ 61. The assay device according to claim ~~59~~⁵⁸, wherein said metal is essentially gold.

~~61~~⁶¹ 62. The assay device according to claim ~~59~~⁵⁸, wherein said metal microsphere is ferromagnetic.

~~62~~⁶² 63. The assay device according to claim ~~57~~⁵⁶, wherein said cleavable spacer includes a first side member and a second side member, said members including oligonucleotides.

⁶³
~~64~~. The assay device according to claim ⁶²~~63~~, wherein said first and second side member oligonucleotides are 5mers - 20mers.

⁶⁴
~~65~~. The assay device according to claim ⁵⁴~~57~~, wherein said cleavable spacer includes a first side member having a first antibody, and a second side member having a second antibody.

⁶⁵
~~66~~. A laser light detector readable disk comprising:

signal elements in a spatially addressable pattern;

interpretive software encoded in an area of said disk which is spatially distinct from and laterally spaced on said disk from said elements; and

said elements and software are readable by a same disk reader.

⁶⁶
~~67~~. The disk of claim ⁶⁵~~66~~ wherein said software is encoded in the form of a spiral track located in a central area of said disk.

⁶⁷
~~68~~. The disk of any one of claims ⁶⁵~~66~~ and ⁶⁶~~67~~ wherein the disposition of said signal elements in said pattern is suitable for the assay of multiple samples in parallel.

⁶⁸
~~69~~. The disk of claim ⁶⁷~~68~~ wherein a substrate of said disk is provided with one or more microfabricated chambers to receive and segregate individual assay sectors of said elements.

⁶⁹
~~70~~. The disk of claim ⁶⁸~~69~~ wherein a sample inlet port is provided for each of said one or more chambers.

⁷⁰
~~71~~. The disk of claim ~~66~~⁶⁵ wherein said software includes information for controlling the tracking of an incident laser.

⁷¹
~~72~~. The disk of claim ~~66~~⁶⁵ wherein said software includes assay interpretive algorithms.

⁷²
~~73~~. The disk of claim ~~66~~⁶⁵ wherein said software includes information for standard control values.

⁷³
~~74~~. The disk of claim ~~66~~⁶⁵ wherein said signal elements are capable of reflecting or scattering incident laser light.

⁷⁴
~~75~~. The disk of claim ~~66~~⁶⁵ wherein said software is encoded in a semi-reflective layer.

⁷⁵
~~76~~. The disk of claim ~~75~~⁷⁴ wherein said semi-reflective layer is formed from a metal.

⁷⁶
~~77~~. The disk of claim ~~66~~⁶⁵ wherein said disk is provided with an address line to which the deposition of said signal elements is addressable.

⁷⁷
~~78~~. The disk of claim ~~77~~⁷⁶ wherein the disposition of said signal elements is on annular tracks.

~~78~~
~~79~~. The disk of claim ~~77~~⁷⁸ wherein the disposition of said signal elements is of a spiral configuration.

~~79~~
~~80~~. A laser light detector readable disk comprising:

one or more assay sectors individually segregated within said disk for individual detector inspection of a sample introduced into a respective sector by laser light;

a sample inlet port associated with each of said one or more assay sectors; and

laser light detectable software encoded in said disk in an area spatially distinct in a lateral direction of the disk from said assay sectors.

~~80~~
~~81~~. The disk of claim ~~80~~⁷⁹ wherein said software is separately readable from said one or more assay sectors.

~~81~~
~~82~~. The disk of claim ~~80~~⁷⁹ wherein analyte binding elements are provided within at least one of said one or more of said sectors.

~~82~~
~~83~~. The disk of claim ~~82~~⁸¹ wherein said analyte binding elements include cleavable signal elements having a cleavable spacer and a signal responsive moiety.

~~83~~
~~84~~. The disk of claim ~~83~~⁸² wherein said signal responsive moiety is adapted to reflect or scatter incident light.

84
85. The disk of claim ~~82~~⁸¹ wherein said cleavable spacer includes a first side member and a second side member, said members including oligonucleotides.

85
86. The disk of claim ~~81~~⁸⁰ wherein said analyte binding elements include oligonucleotides to bind an analyte within said sector for inspection by a laser light detector.

86
87. The disk of claim ~~81~~⁸⁰ further comprising address information encoded in said disk spatially adjacent said one or more assay sectors to provide location information as to said one or more assay sectors.

87
88. The disk of claim ~~87~~⁸⁶ wherein a plurality of said sectors are positioned about said disk in spaced relation and said address information is encoded in said disk between said sectors.

88
89. A method for conducting an inspection of an analyte preselected for detection through the use of a laser disk and laser disk reader having an incident laser which scans the disk under the control of an associated computer, comprising:

providing one or more analyte binding elements in a predetermined first location on or within a substrate of a laser readable disk,

introducing a sample, suspected of including an analyte which will bind to said one or more elements, to said predetermined first location,

reading software information, including incident laser tracking control information, encoded on or in said disk in a second location which is spaced separate and laterally relative said disc from said first location; and